

REMARKS

Claims 1-6 and 8-15 are pending in this application. The Office Action objects to claim 2; rejects claims 1-15 under 35 U.S.C. §112; and rejects claims 1-15 under 35 U.S.C. §103(a). Applicant hereby amends claims 1, 3-6 and 14, and cancels claim 7. No new matter is added.

Applicant appreciates the courtesies extended by Examiner Wong to Applicant's representative during the personal interview conducted on January 9, 2007. Applicant's separate record of the personal interview is incorporated into the following remarks.

Entry of the amendments is proper under 37 C.F.R. §1.116 since the amendments: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issue requiring further search and/or consideration as the amendments amplify issues previously discussed throughout prosecution; (c) satisfy a requirement of form asserted in the previous Office Action; (d) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (e) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

I. Claim Objections

The Office Action objects to claim 2 for containing an informality. The Office Action asserts that, in line 3, the word "the" should be amended to "a." Applicant hereby amends claim 2 accordingly.

For at least the foregoing reasons, the objection to claim 2 is overcome. Reconsideration and withdrawal of the rejection are earnestly solicited.

II. Claim Rejections under 35 U.S.C. §112

The Office Action rejects claims 1-15 under 35 U.S.C. §112, first paragraph, for failing to comply with the written description requirement. The Office Action asserts that the claims contain subject matter not described in the specification in such a way as to reasonably convey that the inventor possessed the claimed invention. With respect to claim 1, line 17, the Office Action is unclear as to the limitation of “treatment of the bath.” Applicant hereby amends claim 1 in order to obviate this rejection.

Claim 1, as amended, now recites “the treatment bath.”

For at least the foregoing reasons, claims 1-15 comply with the written description requirement. Reconsideration and withdrawal of the rejection are earnestly solicited.

III. Claim Rejections under 35 USC §103(a)

The Office Action rejects claims 1-15 under 35 U.S.C. § 103(a) as unpatentable over Matsuda (U.S. Patent No. 5,645,706 ; hereafter “Matsuda”). The Office Action asserts that Matsuda teaches that the phosphate chemical treatment method may be considered as comprising “a step of an etching reaction on a steel material and a step of coat-forming reaction to form a coating.” The Office Action also asserts that the dissolution of the metal Fe would have been a component of the film, and that similar processes can reasonably be expected to yield products which inherently have the same properties. Applicant hereby amends claims 1 and 3-6, cancels claim 7, and traverses the rejection.

Matsuda attempts to create and maintain a condition in its chemical treatment bath that avoids sludge from forming by limiting phase transition only to the formation of the coating on the metal to be treated. See Matsuda, col.7, line 58-60. Matsuda, however, also concedes that it has not fully accomplished the removal of sludge insofar as it describes a second use for the filtering pump as “removal of the sludge which is produced in the treatment bath.” See Matsuda, col. 8, lines 60-65.

In its failed attempt to adequately address the formation of sludge in the bath, Matsuda describes a chemical bath having a pH of 2.0-4.0, preferably 2.5-4.0. See Matsuda, col. 8, lines 23-27 and col. 14, lines 27-28. Further, Matsuda requires a bath having an oxidation-reduction potential (ORP) of 460-860 mV. See Matsuda, col. 13, line 17. However, despite its overly broad disclosure of ranges, Matsuda's 13 examples are limited to a bath having a pH of more than 2.5 in combination with an ORP of less than 800 mV. See Matsuda's examples, col. 16-28. This combination of high pH and low ORP undoubtedly contributes to Matsuda's sludge problem because, for example, Fe does not fully remain in solution in a bath having an ORP of below 770 mV, which is why Matsuda's method *requires* a pump. See Matsuda, col. 8, lines 33-35.

In contrast, instant claim 1, as amended, now contains the limitations "a pH of less than 2" and "an ORP of more than 770 mV." This combination of limitations corresponds to the many examples involving a pH of less than 2 in the specification, as filed, and the conclusion that ORP should be raised and maintained values higher than 770 mV." See specification, as filed, Table 9, page 35; Table 14 showing Example 4, page page 41 and page 43, lines 2-3; and page 44, lines 15-20. This unique combination of pH and ORP is found to substantially eliminate sludge formation to zero. See *Id.*

Thus, Matsuda attempts to eliminate sludge but fails to do so. Matsuda nowhere discloses, and actually teaches away from, a pH of less than 2.0, and only a fraction of its overly broad ORP range (460-860 mV) actually causes Fe to remain in solution. For at least these reasons, the limitations of instant claim 1, based on extensive experimentation and having produced unexpected and superior advantages, would not have been obvious over Matsuda.

For at least the foregoing reasons claims 1-15 would not have been obvious in view of Matsuda. Reconsideration and withdrawal of the rejection are earnestly solicited.

IV. **Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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